

ABSTRACT OF THE DISCLOSURE

[0040] A split drain magnetic field effect transistor (MAGFET) includes at least one supplemental gate to exert a lateral electrical field in the channel of the MAGFET.... Connection of the supplemental gate in feedback with one of the two drain contacts allows the MAGFET to act as a latch sensitive to the presence of an external magnetic field... Preferably, the MAGFET includes two laterally spaced supplemental gates, allowing for the detection of an external magnetic field and its orientation.